

### **REMARKS**

In the Office Action, the Examiner rejected claims 1-50. By the present Response, Applicant has cancelled claims 7 and 40, amended claims 1, 6, 12, 13-16, 21-23, 26, 27, 30-33, 38, 39, 41, 42, 44, 45, 47, 48, and 50, and added new claims 51-56 to clarify features of the present techniques. No new matter was added. Upon entry of the amendments, claims 1-6, 8-39, and 41-56 will be pending in the present patent application. Applicant respectfully requests reconsideration and allowance of all pending claims.

### **Request Clarification**

As a preliminary matter, Applicants note that the present Office Action did not clearly identify passages in the cited references, as required. *See* 37 C.F.R. § 1.104. The Examiner cited to the references by paragraph and line number. However, the references are organized by columns. Moreover, there appears to be no correspondence between the citations and the actual paragraphs of the references. Applicants respectfully request that the Examiner clarify the rejection.

### **New Claims**

The new claims 51-56 are generally directed to the acquisition of the images or to the change of the feature of interest or anomaly. Applicants believe the new claims 51-56 to be patentable over the cited references. Support for the new claims can be found in the specification, for example, on page 12, line 19 to page 15, line 20.

### **Claim Rejections under 35 U.S.C. § 101**

In the Office Action, the Examiner rejected claims 45-50 under U.S.C. § 101 because the claimed invention is directed to not-statutory subject matter. Of these rejected claims, claims 45, 48, and 50 are independent. Applicants respectfully disagree with this rejection. However, this rejection is believed to be moot in view of the amendments made to claims 45, 48, and 50. Applicants amended these claims to include

the language required by the Examiner. *See* Office Action, page 2. Accordingly, Applicants respectfully request the Examiner withdraw the rejection and allow the claims.

### **Claim Rejections under 35 U.S.C. § 102**

In the Office Action, the Examiner rejected claims 1, 2, 6, 8, 10, 11, 13, 15, 18-22, 24, 39, 42-46, and 48-50 under U.S.C. § 102(b) as anticipated by Gur I (U.S. Patent No. 5,627,907); claims 1, 2, and 4 as being anticipated by Rosinko (EP 1057455A2); and claims 6 and 9 as being anticipated by Gihuijs; et al. (U.S. Patent No. 6,317,617). Of these rejected claims, claims 1, 6, 13, 21, 39, 42, 44, 45, and 50 are independent. Applicants respectfully traverse these rejections.

### ***Legal Precedent***

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). Every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). Indeed, the prior art reference must show the *identical* invention “*in as complete detail as contained in the ... claim*” to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989) (emphasis added).

Further, during patent examination, the pending claims must be given an interpretation that is reasonable and consistent with the specification. *See In re Prater*, 415 F.2d 1393, 1404-05, 162 U.S.P.Q. 541, 550-51 (C.C.P.A. 1969); *see also* M.P.E.P. §§ 608.01(o) and 2111. Indeed, the specification is “the primary basis for construing the claims.” *See Phillips v. AWH Corp.*, 75 U.S.P.Q.2d 1321, 1326 (Fed. Cir. 2005). One should rely heavily on the written description for guidance as to the meaning of the claims. *See id.*

***Features of Independent Claims Missing from Gur I***

The instant claims generally recite that two images are registered based on alignment of the same feature or anomaly within the two images.

In stark contrast, Gur I identifies abnormal regions and prunes false-positives by: (1) *manipulating the same image (i.e., comparing the same image at different pixel intensities – labeled as different topographical layers of the same image) (see, e.g., Figs. 3 and 5); or (2) comparing images of different subject matter (i.e., bilateral-image subtraction) (e.g., comparing an image of the left breast with an image of the right breast, and also utilizing different pixel intensities—topographical layers) (see, e.g., Figs. 3 and 4A-C).* These two basic embodiments of Gur I are clearly different than the technique recited in the present claims.

Applicants are puzzled that the Examiner would rely on Gur I to support the foregoing rejections of the present claims. Again, it should be emphasized that the cited reference, contrary to the instant claims: (1) manipulates and compares the same image (not two images, as presently claimed); or (2) compares images of different subject matter (e.g., the left breast and the right breast – not comparing images of the same subject, as claimed).

Lastly, Applicants believe that the skilled artisan would not view these two embodiments as teaching the “registering” of images, as claimed. With regard to the first embodiment, Applicants assert that comparing topographical layers of the same image is not registering two images. It is incorrect to characterize a comparison of an image to itself, even at different contrasts, as “registering” images. After all, the positional data is the same. With regard to the second embodiment, Applicants believe it incorrect to characterize the comparison of two images of different subject matter as “registering” the two images. There is no common positional data to base such a registration. To be sure,

Gur I does not disclose registering two acquired images based on the same anomaly within the two images. For these reasons, Gur I cannot anticipate the instant claims.

***Features of Independent Claim 1 Missing from Rosinko***

In formulating the rejection based on Rosino, the Examiner equated the Rosino radiopaque markers with the claimed “feature of interest.” While claim 1 has been amended to change the recited “feature of interest” to “anomaly,” Applicants will briefly address the Examiner’s equating of the Rosino markers with “feature of interest” because “feature of interest” is recited in other claims. Apparently, the Examiner misinterpreted “feature of interest,” as claimed *See Phillips v. AWH Corp.*, 75 U.S.P.Q.2d 1321, 1326 (Fed. Cir. 2005) (explaining that one should rely heavily on the written description for guidance as to the meaning of the claims). While images may be registered based on the placement of markers, Applicants believe that one of ordinary skill in the art would not interpret the claimed “feature of interest” (e.g., an anomaly) as encompassing a marker, especially in view of the present specification.

***Features of Independent Claim 6 Missing from Gilhuijs***

Claim 6 recites, *inter alia*, “registering the first image with the second image by aligning the feature of interest with the corresponding feature of interest.” (Emphasis added). In contrast, Gilhuijs is directed to merging extracted features. The Gilhuijs technique extracts features from images, and then combines the data associated with these extracted features, and does not register images. Therefore, Gur I cannot anticipate claim 6 or its dependent claims. In view of the foregoing, Applicants respectfully request the Examiner withdraw the rejections and allow the claims.

**Rejections Under 35 U.S.C. § 103**

The Examiner rejected claims 3, 5, 7, 12, 14, 17, 41, and 47 under 35 U.S.C. § 103(a) as being unpatentable over Gur I (U.S. Patent No. 5,627,907) in view of Roehrig

et al. (U.S. Patent No. 6,075,879); claim 16 as being unpatentable over Gur I (U.S. Patent No. 5,627,907) in view of Gur II (U.S. Patent No. 6,067,372); claims 23, 29, 30, and 31 as being unpatentable over Gur I (U.S. Patent No. 6,067,372) in view of Giger et al. (U.S. Patent No. 5,133,020); claims 25-28 as being unpatentable over Gur I (U.S. Patent No. 5,627,907) in view of Moshfeghi (U.S. Patent No. 5,633,951) and in further view of Giger (U.S. Patent No. 5,133,020); claims 32, and 35-38 as being unpatentable over Gur I (U.S. Patent No. 5,627,907) in view of Giger et al (U.S. Patent No. 5,133,020); claims 33, 40, and 41 as being unpatentable over Gur I (U.S. Patent 5,627,907) in view of Giger et al (U.S. Patent No. 5,133,020) and in further view of Roehrig II et al (U.S. Patent No. 6,075,879); claim 34 as being unpatentable over Gur I (U.S. Patent 5,627,907) in view of Giger et al (U.S. Patent No. 5,133,020) and in further view of Roehrig et al. (U.S. Patent No. 6,075,879) and in still further view of Roehrig (U.S. Application No. 09/990,508); claim 3 as being unpatentable over Rosinko et al (U.S. Patent No. 6,075,879) in view of the article "Improved Localization of Coronary Stents Using Layer Decomposition". Of these rejected claims, claim 32 is independent. Applicants respectfully traverse these rejections.

### ***Legal Precedent***

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). To establish a *prima facie* case, the Examiner must show that a combination of references includes *all* of the claimed elements, and also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the reference. *See Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). The Examiner must provide objective evidence, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *See In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). Indeed, the Examiner cannot use hindsight reconstruction to pick and choose among isolated

disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

The Supreme Court recently stated that the obviousness analysis should be explicit. *See KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350, page 14 (U.S., decided April 30, 2007). “[R]ejections based on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *See id.* (quoting *In re Kahn*, 441 F.3d 977,988 (Fed. Cir. 2006)).

#### ***Features of Independent Claim 32 Missing from the Cited Combination***

Claim 32 recites the registration of images based on alignment of corresponding features of interest in the images. As discussed, Gur I does not teach or suggest the registering of two separate images based on the same feature or anomaly. Further, Applicants believe that the secondary reference (Giger) in the cited combination does not obviate this deficiency of Gur I. Therefore, claim 32 and its dependent claims are believed patentable over Gur I and Giger, taken alone or in combination.

#### ***Dependent Claims***

The Examiner rejected the dependent claims based on various combinations in which incorporate Gur I as the primary reference. The rejection of dependent claim 3 relies on Rosinko as the primary reference. Nevertheless, the additional cited references in the present rejections do not obviate the deficiencies of the Gur I and Rosinko references, as discussed above with regard to the independent claims. Therefore, the dependent claims are patentable by virtue of their dependency on an allowable base claim. Further, Applicants respectfully assert that the dependent claims are also patentable because of the subject matter they separately recite. In view of the foregoing, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 103.

***Improper Combination of Gur I and Roehrig***

As acknowledged by the Examiner, Gur I does *not* disclose a process where the first image and the second image are acquired in different temporal settings. *See* Office Action, page 8. To be sure, Gur I does not even address temporal image acquisition, much less teach or suggest doing so. Yet, the Examiner stated, incorrectly, that “it would have been obvious to one of ordinary skill at the time of the invention to compare the suspicious regions [of Gur I] from different temporal settings. They would have been motivated to do this in order to monitor the behavior of the abnormality over time.” *See id.* However, this assertion indicates the Examiner’s misunderstanding of the technology disclose in Gur I. There is no appropriate reason to modify the process in Gur I to include images acquired in different temporal settings. The process in Gur I specifically uses topographic layers for suspected abnormal region evaluation, a process which Applicants believe independent of time and which would be confused by a temporal factor.


In the Office Action, the Examiner relied on Roehrig as a secondary reference to teach acquiring the images in different temporal settings. *See* Office Action, page 8. However, there is no appropriate reason to combine Roehrig with Gur I. in the manner asserted by the Examiner or in the manner recited in the claims. Therefore, Applicants respectfully request the Examiner withdraw the rejections based on the combination of Gur I and Roehrig, and allow the claims.

**Conclusion**

In view of the remarks and amendments set forth above, Applicant respectfully requests allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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